

# **Using Aircraft Thermal Scanners In The Vicarious Calibration Of Satellite Based Thermal Imagers**

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In the spring of 1998 several new satellite based thermal imagers will be launched (i.e. ASTER, MODIS, Landsat 7). Each of these imagers use onboard blackbodies to provide estimates of detector gain and offset and each has the potential to provide high quality radiometric measurements (in temperature terms, accuracies significantly better than 1 K are expected). Vicarious calibration involving land and water targets is to be used to provide estimates of the accuracy of these systems.

In preparation for these vicarious calibration activities, the aircraft scanner TIMS has been used in conjunction with surface measurements to better understand the problems and error sources involved. A description of these field measurements over large and small water targets and land targets along with results will be provided. The high spatial resolution provided by aircraft thermal scanners is an important advantage in assessing the spatial heterogeneity of both water and land targets for the relatively large pixel size (60-1000 m) of the satellite based thermal imagers.